Important Database Questions for Specialist Officer Exam - SBI and IBPS

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Hi Folks,
I'll be posting important topics/questions from relevant topics related to Information Technology field. They will be useful for specialist officer's exam. Kindly post your queries/feedback in comments section. We'll take up some important DBMS questions today.

What are the levels of abstraction?

- **Physical level** - lowest level of abstraction which describes how data is stored.
- **Logical level** - it describes what data is stored and relationship among that data.
- **View level** - it describes a part of entire database and user interaction (GUI) with it.

What is extension and intension?

- **Extension** - it is the number of tuples present in table at any instance. It is time dependent.
- **Intension** - A constant value that gives the name, structure and constraints associated with a table.

Difference between a Data Warehouse and Data Mart?

- **Data Warehouse -** It contains multiple subject areas and is for enterprise. It holds very detailed historical information. E.g. Enterprise Data.
- **Data Mart** - It is for a specific functional area and holds information in a summarized form. It is easy to build. Eg. Departmental Data.

What is XML?

XML stands for **Extensible Markup Language.** It is used to manipulate and structure data related to a browser. XML is self defining as it contains the structure of the data along with the data. It uses tags similar to HTML (HyperText Markup Language) but XML describes the content whereas HTML describes appearance. It provides for a **clear separation** between document structure & materialization. It is becoming the standard for e-commerce these days.

Difference between Static (embedded) SQL & Dynamic (interactive) SQL?

- **Static SQL** - It is the process of hard coding SQL statements. How database

will be accessed is pre-determined. These statements do not change unless we modify the source code. It is more quick and efficient.

- **Dynamic SQL** - It is the process of generating SQL statements/ Accessing Database at run time. They can be different each time. It is slow and less efficient.

4 types of Indexes?

- **Unique primary index** - it is used to find and store a row & is unique.
- **Non unique primary index** - it is used to find and store a row based on unique primary index and is not unique in nature.
- **Unique secondary index** - It is unique for each row and is used to find table rows.
- **Non unique secondary index** - Again, used to find table rows but not unique in nature.

Mains objectives of Normalization

- Simplify constraints.
- Minimize data redundancy
- Better design
- Make it easy to insert, update and delete data.

Maximum and Minimum Cardinality

- **Maximum Cardinality** refers to max no. of instances of an entity that can be associated with each instance of another entity.
- **Minimum Cardinality** refers to min no. of instances that can be associated with each instance of another entity.

Difference between Structured and Unstructured data?

- **Structured** - This is factual data with objects/events. Data like - numeric, character and dates is structured data. It is stored in table form.
- **Unstructured** - This is usually the multimedia data like photos, maps, images and sound clips. It is usually stored on web servers.

GK fact of the day

The fastest bird in the world is Peregrine Falcon with a maximum recorded air speed of 389 km/hr.
(Shall we call it the Bullet Bird !!!)